

ABSTRACT OF THE DISCLOSURE

A vacuum window transmitting keV electrons and usable for high-pressure electron analysis such as XPS and AES in which the sample is positioned outside the UHV analyzer chamber, possibly in a controlled gas environment, relatively close to the window. The 5 window includes a grid formed from a support layer and a thin window layer supported between the ribs and having a thickness preferably of 2 to 3nm. The window and support layers may be deposited on a silicon wafer and the support layer is lithographically defined into the grid. The wafer is backside etched to expose the back of the grid and its supported window layer. Such a window enables compact and easily used electron analyzers and further allows 10 control of the gas environment at the sample surface during analysis.